

REMARKS

In this Amendment, claims 1, 23, and 28 are amended to further recite the invention without the intention of narrowing the scope of any of the claims. Claims 1-15, 17, 20, 23 and 25-30 are pending in the present application. Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Applicant appreciates the Examiner's indication that claims 3, 4, 12, 13, 17, 26, 29, and 30 would be allowable if rewritten in independent form. However, Applicant respectfully submits that claims 3, 4, 12, 13, 17, 26, 29, and 30 are allowable for at least the reasons below.

Claims 1, 2, 5, 7, 8, 20, and 23 were rejected under 35 U.S.C. § 102 (b) as being anticipated by Japanese Patent Application Publication No. 6-124873 ("the Japanese Publication"). Applicant respectfully traverses these rejections for at least the following reasons.

Applicant respectfully submits that the cited portions of the Japanese Publication fail to disclose, teach or suggest a lithographic projection apparatus comprising, *inter alia*, a selective heater configured to selectively control the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as recited in claim 1. As disclosed in paragraphs [0018] and [0020] of the Japanese Publication and as stated by the Examiner in paragraph 2 of the Office Action of August 17, 2006, controller 21 controls the temperature of liquid 30. Any effects on the temperature of bubbles in the liquid are secondary to substantially and purposefully controlling the temperature of the liquid. Thus, the controller of the Japanese Publication is not configured to selectively control the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as claimed. As a result, claim 1 is patentable over the Japanese Publication.

Claims 2, 5, 7, 8 and 20 depend from claim 1 and are, therefore, patentable for at least the same reasons provided above related to claim 1, and for the additional features recited therein.

Applicant respectfully submits that the cited portions of the Japanese Publication fail to disclose, teach or suggest a device manufacturing method comprising, *inter alia*, selectively controlling the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as recited in claim 23. As discussed similarly above, any

effects on the temperature of bubbles in the liquid due to the controller 21 of the Japanese Publication are secondary to substantially and purposefully controlling the temperature of the liquid. Thus, the controller of the Japanese Publication does not selectively control the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as claimed. As a result, claim 23 is patentable over the Japanese Publication.

Accordingly, Applicant respectfully requests that the rejection of claims 1, 2, 5, 7, 8, 20 and 23 under 35 U.S.C. § 102(b) in view of the Japanese Publication be withdrawn and the claims be allowed.

Claims 1, 5, 6, 10, 11, 23 and 28 were rejected under 35 U.S.C. § 102 (b) as being anticipated by U.S. Patent No. 5,610,683 to Takahashi ("Takahashi"). Applicant respectfully traverses these rejections for at least the following reasons.

Applicant respectfully submits that the cited portions of Takahashi fail to disclose, teach or suggest a lithographic projection apparatus comprising, *inter alia*, a selective heater configured to selectively control the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as recited in claim 1. As disclosed in col. 6, lines 32-35 of Takahashi and as stated by the Examiner in paragraph 3 of the Office Action, Takahashi discloses controlling the temperature of the liquid. Any effects on the temperature of bubbles in the liquid are secondary to substantially and purposefully controlling the temperature of the liquid. Thus, the thermometer and/or temperature controller of Takahashi is not configured to selectively control the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as claimed. As a result, claim 1 is patentable over Takahashi.

Claims 5, 6, 10 and 11 depend from claim 1 and are, therefore, patentable for at least the same reasons provided above related to claim 1, and for the additional features recited therein.

Applicant respectfully submits that the cited portions of Takahashi fail to disclose, teach or suggest a device manufacturing method comprising, *inter alia*, selectively controlling the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as recited in claim 23. As discussed similarly above, any effects on the temperature of bubbles in the liquid due to the liquid temperature controller of Takahashi are secondary to substantially and purposefully controlling the temperature of the liquid. Thus, the thermometer and/or temperature controller of Takahashi does not selectively

control the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as claimed. As a result, claim 23 is patentable over Takahashi.

Applicant respectfully submits that the cited portions of Takahashi fail to disclose, teach or suggest a lithographic projection apparatus comprising, *inter alia*, a particle input device configured to controllably introduce particles into the liquid, as recited in claim 28. The cited portions of Takahashi do not refer to a particle input device, as suggested by the Examiner, but instead refer to foreign particles that have somehow undesirably made their way into the liquid. There is simply no device disclosed, taught, or suggested that the Examiner can properly identify as a "particle input device," as claimed, that is configured to controllably introduce particles into the liquid. As a result, claim 28 is patentable over Takahashi.

Accordingly, Applicant respectfully requests that the rejection of claims 1, 5, 6, 10, 11, 23 and 28 under 35 U.S.C. § 102(b) in view of Takahashi be withdrawn and the claims be allowed.

Claim 28 was rejected under 35 U.S.C. § 102(e) as being anticipated by United States Patent Application Publication No. 2005/0037269 to Levinson ("Levinson"). Applicant respectfully traverses this rejection for at least the following reasons.

As similarly discussed above, the cited portions of Levinson, like Takahashi, refer to foreign particles that have somehow undesirably made their way into the liquid. Accordingly, the cited portions of Levinson do not disclose, teach or suggest a lithographic projection apparatus comprising, *inter alia*, a particle input device configured to controllably introduce particles into the liquid, as recited in claim 28. As a result, claim 28 is patentable over Levinson.

Accordingly, Applicant respectfully requests that the rejection of claim 28 under 35 U.S.C. § 102(e) in view of Levinson be withdrawn and the claim be allowed.

Claim 28 was rejected under 35 U.S.C. § 102(e) as being anticipated by United States Patent Application Publication No. 2005/0048223 to Pawloski et al. ("Pawloski"). Applicant respectfully traverses this rejection for at least the following reasons.

As similarly discussed above, the cited portions of Pawloski, like Takahashi and Levinson, refer to foreign particles that have somehow undesirably made their way into the immersion liquid. Accordingly, the cited portions of Pawloski do not disclose, teach or suggest a lithographic projection apparatus comprising, *inter alia*, a particle input device

configured to controllably introduce particles into the liquid, as recited in claim 28. As a result, claim 28 is patentable over Pawloski.

Accordingly, Applicant respectfully requests that the rejection of claim 28 under 35 U.S.C. § 102(e) in view of Pawloski be withdrawn and the claim be allowed.

Claim 9 was rejected under 35 U.S.C. § 103(a) as being obvious in view of the Japanese Publication and further in view of Japanese Patent Application Publication No. 10-303114 to Suwa ("Suwa"). Applicant respectfully traverses this rejection for at least the following reasons.

As discussed above, the cited portions of the Japanese Publication fail to disclose, teach or suggest independent claim 1. Claim 9 depends from independent claim 1, and is, therefore, patentable over the cited portions of the Japanese Publication for at least the same reasons provided above related to claim 1, and for the additional features recited therein.

Further, the cited portions of Suwa fail to overcome the shortcomings of the cited portions of the '873 document with respect to independent claim 1. For example, the cited portions of Suwa fail to provide any disclosure, teaching or suggestion regarding a lithographic apparatus comprising, *inter alia*, a selective heater configured to selectively control the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as recited in claim 1. The cited portions of Suwa simply fail to make any disclosure, teaching or suggestion regarding a heater configured to selectively control the temperature of anything.

Therefore, Applicant respectfully submits that the Examiner has failed to make a *prima facie* case of obviousness and that independent claim 1 is believed to be allowable. Claim 9 depends from claim 1 and is, therefore, patentable for at least the same reasons provided above related to claim 1, and for the additional features recited therein. Thus, Applicant respectfully requests that the rejection of claim 9 under § 103(a) in view of the Japanese Publication further in view of Suwa be withdrawn and the claims be allowed.

Claims 14 and 27 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Takahashi and further in view of Pawloski. Applicant respectfully traverses these rejections for at least the following reasons.

As discussed above, the cited portions of Takahashi fail to disclose, teach or suggest independent claims 1 and 23. Claims 14 and 27 depend from independent claims 1 and 23, respectively, and are therefore patentable over the cited portions of Takahashi for at least the

same reasons provided above related to claims 1 and 23, respectively, and for the additional features recited therein.

Further, the cited portions of Pawloski fail to overcome the shortcomings of the cited portions of Takahashi with respect to independent claim 1. For example, the cited portions of Pawloski fail to provide any disclosure, teaching or suggestion regarding a lithographic apparatus comprising, *inter alia*, a selective heater configured to selectively control the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as recited in claim 1. The cited portions of Pawloski simply fail to make any disclosure, teaching or suggestion regarding a heater configured to selectively control the temperature of anything.

Further, the cited portions of Pawloski fail to overcome the shortcomings of the cited portions of Takahashi with respect to independent claim 23. For example, the cited portions of Pawloski fail to provide any disclosure, teaching or suggestion regarding a device manufacturing method comprising, *inter alia*, selectively controlling the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as recited in claim 23. The cited portions of Pawloski simply fail to make any disclosure, teaching or suggestion regarding a heater configured to selectively control the temperature of anything.

Therefore, Applicant respectfully submits that the Examiner has failed to make a prima facie case of obviousness and that independent claims 1 and 23 are believed to be allowable. Claims 14 and 27 depend from claims 1 and 23, respectively, and are, therefore, patentable for at least the same reasons provided above related to claims 1 and 23, and for the additional features recited therein. Thus, Applicant respectfully requests that the rejection of claims 14 and 27 under § 103(a) in view of Takahashi further in view of Pawloski be withdrawn and the claims be allowed.

Claim 15 was rejected under 35 U.S.C. § 103(a) as being obvious in view of Takahashi and further in view of United States Patent Application Publication No. 2005/0174549 to Duineveld et al. ("Duineveld"). Applicant respectfully traverses this rejection for at least the following reasons.

As discussed above, the cited portions of Takahashi fail to disclose, teach or suggest independent claim 1. Claim 15 depends from independent claim 1, and is, therefore, patentable over the cited portions of Takahashi for at least the same reasons provided above related to claim 1, and for the additional features recited therein.

Further, the cited portions of Duineveld fail to overcome the shortcomings of the cited portions of Levinson with respect to independent claim 1. For example, the cited portions of Duineveld fail to provide any disclosure, teaching or suggestion regarding a lithographic apparatus comprising, *inter alia*, a selective heater configured to selectively control the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as recited in claim 1. The cited portions of Duineveld simply fail to make any disclosure, teaching or suggestion regarding a heater configured to selectively control the temperature of anything.

Therefore, Applicant respectfully submits that the Examiner has failed to make a prima facie case of obviousness and that independent claim 1 is believed to be allowable. Claim 15 depends from claim 1 and is, therefore, patentable for at least the same reasons provided above related to claim 1, and for the additional features recited therein. Thus, Applicant respectfully requests that the rejection of claim 15 under § 103(a) in view of Takahashi further in view of Duineveld be withdrawn and the claims be allowed.

Claim 25 was rejected under 35 U.S.C. § 103(a) as being obvious in view of Takahashi and further in view of United States Patent Application Publication No. 2005/0037269 to Levinson ("Levinson"). Applicant respectfully traverses this rejection for at least the following reasons.

As discussed above, the cited portions of Takahashi fail to disclose, teach or suggest independent claim 1. Claim 25 depends from independent claim 1, and is, therefore, patentable over the cited portions of Takahashi for at least the same reasons provided above related to claim 1, and for the additional features recited therein.

Further, the cited portions of Levinson fail to overcome the shortcomings of the cited portions of Takahashi with respect to independent claim 1. For example, the cited portions of Levinson fail to provide any disclosure, teaching or suggestion regarding a lithographic apparatus comprising, *inter alia*, a selective heater configured to selectively control the temperature of bubbles in the liquid without substantially changing the temperature of the liquid, as recited in claim 1. The cited portions of Levinson simply fail to make any disclosure, teaching or suggestion regarding a heater configured to selectively control the temperature of anything.

Therefore, Applicant respectfully submits that the Examiner has failed to make a prima facie case of obviousness and that independent claim 1 is believed to be allowable.

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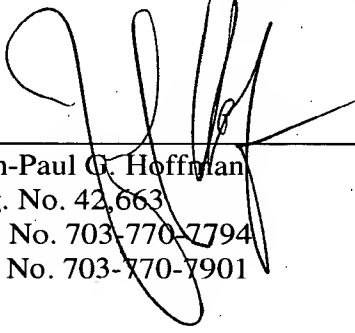
Claim 25 depends from claim 1 and is, therefore, patentable for at least the same reasons provided above related to claim 1, and for the additional features recited therein. Thus, Applicant respectfully requests that the rejection of claim 25 under § 103(a) in view of Takahashi further in view of Levinson be withdrawn and the claims be allowed.

All rejections have been addressed. It is respectfully submitted that the present application is in condition for allowance, and a notice to that effect is earnestly solicited. Should there be any questions or concerns regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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